

## **CLOSURE DEVICE FOR THE FLUID DELIVERY LINE OF A HIGH-PRESSURE CLEANING APPARATUS**


*See  
PCT/EP  
02/13414*  
The present disclosure relates to the subject matter disclosed in international application PCT/EP 02/13414 of November 28, 2002, which is incorporated herein by reference in its entirety and for all purposes.

### **BACKGROUND OF THE INVENTION**

The invention relates to a closure device for the fluid delivery line of a high-pressure cleaning apparatus having arranged in the fluid delivery line a closure member which is pressed with a closing force against a valve seat and thereby closes the fluid delivery line, and which is liftable off the valve seat by a mechanical actuating element displaceable by a hand lever and extending in a sealed manner out of the fluid delivery line, when the hand lever is moved in the direction of an open position.

Such closure devices are known, for example, from DE 81 18 510 U1 or from DE 35 27 922 C2. To ensure reliable closing of these closure devices, they are usually constructed in such a manner that during the opening the closure members are lifted off the valve seat against a relatively high force, and, therefore, opening for some time may prove tiring.

Special mechanical aids are, therefore, provided in the above-mentioned known closure devices to reduce the holding forces when the closure device is open. These are additional clamping devices or spring devices which engage the hand lever. However, these may be trouble-prone, especially when the closure devices are improperly handled or undergo aging processes.



This application is a continuation of PCT/EP02/13414 filed November 28, 2002.